NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PRACTICE STANDARD

FISHPOND MANAGEMENT

(Ac.)

CODE 399

DEFINITION

Managing impounded aquatic habitat and water quality for the production of fish.

PURPOSE

- To provide favorable habitat for fish and other aquatic organisms which help sustain the fish population.
- To develop and maintain a desired species composition and ratio.
- To develop and maintain a desired level of production.

CONDITIONS WHERE PRACTICE APPLIES

In warm and cold water ponds, lakes, and reservoirs not managed for commercial aquaculture purposes.

CRITERIA

General Criteria Applicable to All Purposes

Ponds must meet the requirements of Conservation Practice Standard 378, Pond.

Livestock shall be excluded from the pond.

Control nuisance species in compliance with state and local regulations.

Protect the site from flooding, sedimentation, and contamination.

Control undesirable aquatic vegetation.

Comply with state and local regulations when selecting species to be stocked.

Discharges from ponds, lakes, and reservoirs will meet state water quality standards.

Prevent the fish in the pond from escaping or being introduced into adjoining waters where native species might be adversely affected in accordance with state and local regulations.

Criteria to Develop and Maintain a Desired Species Composition and Ratio

Limit species for stocking to those that are locally adapted for use in ponds, lakes or reservoirs.

Based on client objectives and local regulations develop a pond management plan that specifies species selection, stocking rates and ratios.

Develop species selection, stocking rates, and ratios with respect to the size, depth, water temperature, and water quality of the pond to be stocked.

Criteria to Develop and Maintain a Desired Level of Production

Maintain the desired level of production through liming, fertilization, slot limits, harvesting, or supplemental feeding. Address water quality conditions (e.g., dissolved oxygen level, total hardness, pH, alkalinity, phytoplankton bloom, etc.) based on local conditions using the pond management plan.

Aquatic organism health issues directly affect production levels and need to be included in the pond management plan. Follow proper diagnostic sampling procedures during fish kills and when submitting samples to diagnostic labs.

CONSIDERATIONS

Use native species whenever possible. Nonnative game fish can escape ponds and severely affect adjacent ecosystems.

Consider alternatives to the use of pesticides in the drainage area above the site, which may

have negative impacts to water quality and aquatic organisms.

Consider the use nutrient and pest management practices in the watershed to maintain water quality.

Consider the effect of additional uses (e.g., livestock watering, recreation, irrigation, etc.) on the fish and/or aquatic organism population.

Consider the use of supplemental aeration equipment to improve gas transfer, water quality, and minimize fish stress within the impoundment.

Consider providing additional fish and wildlife habitat within or around the impoundment for cover and breeding purposes. A vegetated buffer around the pond can provide multiple benefits, such as nesting and escape cover, reduced bank erosion, improved water quality, and more,

Grassy cover around the impoundment that may provide nesting habitat should not be mowed until after the primary nesting season.

PLANS AND SPECIFICATIONS

A pond management plan will be prepared using approved specification sheets, job sheets, technical notes, narrative statements in the conservation plan, or other documentation.

The plan will include:

- A location map and plan view of the site;
- Statement of purpose that describes the species(s) desired and management goals;
- Evaluation methods (observation, seining, electroshocking, harvest records, etc.) for determining the population dynamics of fish and other aquatic organisms;
- Reference to State Aquatic Nuisance Species Management Plan recommendations, if applicable; and
- Permit requirements and regulations, if applicable.

OPERATION AND MAINTENANCE

Develop an operation and maintenance plan that includes the following actions that are required for the successful management of the pond, lake, or reservoir:

1. Evaluation of habitat conditions on a regular basis.
2. Management of fish or other aquatic organism populations.
3. Supplemental feeding where applicable.
4. Removal of undesirable and overpopulated organisms.
5. Management and control of aquatic vegetation.
6. Application of fertilizer and lime where applicable.
7. Monitoring and maintenance of desired water quality conditions (e.g., dissolved oxygen level, total hardness, pH, alkalinity, phytoplankton bloom, etc.).
8. Periodic inspection and maintenance of structural components (e.g., water level control equipment).
9. Detection and identification of fish pathogens and instructions for collecting and preserving samples.
10. Operation and maintenance procedures for water treatment and escape-control mechanisms at discharge points.

REFERENCES

A Manual of Fish Culture. Fish Culture Section, American Fisheries Society, 1999.

Inland Fisheries Management in North America, Second Edition. Chapter 21, Small Impoundments. Kohler, C.C. and W.A. Hubert, editors. American Fisheries Society, 1999.

Managing Aquatic Vegetation with Grass Carp. J.R. Cassani, editor. American Fisheries Society, 1996.

Mississippi Interstate Cooperative Resource Association: Summary of Permit Authority and Prohibited Species by State with Special Emphasis on Asian Carp. Aquatic Nuisance Species Task Force, 2000.

Suggested Procedures for the Detection and Identification of Certain Finfish and Shellfish Pathogens (Blue Book). Fish Health Section, American Fisheries Society, 2004.

NOTE: State fish and wildlife agencies and land grant universities may also provide publications on fishpond management.